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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,400

03/02/2005

Sami Poykko

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SQUIRE, SANDERS & DEMPSEY L.L.P.  
14TH FLOOR  
8000 TOWERS CRESCENT  
TYSONS CORNER, VA 22182

EXAMINER

HUYNH, NAM TRUNG

ART UNIT

PAPER NUMBER

2617

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/526,400	<b>Applicant(s)</b> POYKKO ET AL.	
	<b>Examiner</b> Nam Huynh	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-23 is/are allowed.
- 6) ☒ Claim(s) 1-17 and 24-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

This office action is in response to amendment filed on 2/28/2007. Of the previously presented claims 1, 2, 4-27, claims 1, 2, 18-23, 26, and 27 have been amended.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-17 and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Havinis et al. (US 6,295,454) in view of Sheffer et al. (US 5,844,522).

A. Regarding claims 1, 26, and 27, Havinis et al. discloses a system and method for providing location information for terminal-based position calculation comprising a Serving Mobile Location Center (SMLC) that can allow a mobile station (MS) to obtain (collect) positioning measurements (location information) (column 4, lines 63-64). The

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SMLC also chooses an optimum positioning method available that can be network or terminal based (column 4, lines 14-20) via a command message (column 5, lines 16-28). Once the MS obtains the command message, the MS calculates its own location based upon its own positioning measurements, the additional information supplied by the network, and a location function within the MS (column 5, lines 36-40). However, Havinis et al. does not explicitly disclose the determination of a base station estimate. Sheffler et al. a wireless network based location system and method that uses an existing wireless communication network to locate the position of any active phone or transceiver unit in the network (abstract). In the scope of the invention, a communication dispatch center (CDC) comprises workstation software that monitors the movement of the mobile station through RSSI readings of agile vector sensors (AVS) installed in each cell site of the network (column 7, lines 36-46). In an example situation, when a phone moves east, but is still connected to an original active cell N (serving cell), the CDC workstation software will determine that the RSSI reading of the active cell is becoming very low, and will also determine that the phone is moving away from the other three AVS units (neighboring cells). As a result of this, the CDC workstation makes a determination that more AVS units closer to the east direction (estimating the direction of the phone) of the AVSs must be added to the original neighbors list (column 20, lines 43-57). The AVS or base station in the estimated direction of the phone that is added to the neighbors list renders the "virtual base station estimate". Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Havinis et al., to include the

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determination of a virtual base station estimate, as taught by Sheffer et al., in order for the SMLC to hone in on the currently assigned channel to track or locate the mobile station even if intra-cell handoff has occurred.

B. Regarding claim 2, Havinis et al. discloses an example of a message received by the MS containing current cell ID and a Timing Advance (TA) value for a serving base station in order for the MS to calculate its positioning (column 7, lines 24-26).

C. Regarding claim 4, the limitations are rejected as applied to claims 1 and 2.

D. Regarding claims 5-7, Sheffer et al. discloses that the predicted neighboring cells are analyzed (column 20, lines 55). This analysis renders the virtual measurement and the RSSI readings of the active cell and its neighbors are the real measurement. This location method utilizes cell identity and RSSI values.

E. Regarding claim 8, Havinis et al. discloses that positioning information within a message shall indicate to the Mobile Switching Center/Visitor Location Register (MSC/VLR) whether the MS can support terminal-based positioning, the type of terminal-based positioning methods supported, and whether the MS is capable of performing location calculations based upon the positioning measurements. Once the MSC/VLR receives this data it is sent to the SMLC so that it can determine the optimum positioning method (column 4, lines 50-59).

F. Regarding claim 10, Havinis et al. discloses that the MS is commanded to begin the collection of location information (column 5, lines 21-22).

G. Regarding claim 11, Havinis et al. discloses a Position Measurement Module (PMM) within the MS to perform positioning measurements (column 5, lines 41-44)

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therefore rendering the arrangement of the mobile device to measure a level of at least one type of information.

H. Regarding claims 12, 13, and 16, Sheffer et al. discloses that the phone detects the RSSI (received signal level) of the serving cell and neighboring cells (column 20, lines 43-57).

I. Regarding claim 14, Havinis et al. shows in figure 5 a MS that is represented by a cellular phone (item 20).

J. Regarding claims 15 and 17, Havinis et al. discloses that a Base Station Controller (BSC) provides the current cell ID and Timing Advance (TA) value for a serving Base Transceiver Station (BTS) and sends this to MSC. The MSC then sends this data to the SMLC, which is then sent to the MS in order to calculate its position (column 7, lines 21-35). The current cell is selected in order to measure information that is sent to the MS for the calculation of its position, therefore rendering the limitations of claim 17.

K. Regarding claims 24-25, Havinis et al. discloses an iterative method in figure 8 by showing the loop-connecting step 870 and 685. A linear method is shown by the flow downward flow of the steps.

***Allowable Subject Matter***

4. Claims 18-23 are allowed.

***Response to Arguments***

5. Applicant's arguments filed 2/28/2007 have been fully considered but they are not persuasive.

6. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the virtual base station estimate) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant asserts that the combination of Havinis et al. and Sheffer et al. does not teach or suggest calculating a "virtual base station estimate". The Examiner respectfully disagrees and interprets a "virtual base station estimate" as a base station that is not an immediate neighbor in a mobile station's neighbor list. Sheffer et al. teaches adding base stations to a neighbors list based upon an estimated direction of the mobile station (column 20, lines 42-57). A base station located in an estimated direction that the mobile station is moving is not an immediate neighboring base station and therefore renders a "virtual base station".

Furthermore, amended claims 1, 26, and 27 recite "providing a location estimate based on at least one of the at least one selected location method estimate and the virtual base station estimate". The Examiner interprets this limitation as providing a location estimate based on one of the at least selected location method estimate or (emphasis added) the virtual base station estimate. The first stated "on at least one of" creates an "or" condition between the location method estimate and the virtual base station estimate. At least one of the two aforementioned estimates is taught by the combination of Havinis et al. and Sheffer et al.

***Conclusion***

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nam Huynh whose telephone number is 571-272-5970. The examiner can normally be reached on 8 a.m.-5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NTH  
5/29/07

  
GEORGE ENG  
SUPERVISORY PATENT EXAMINER